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ANNUAL ACCOUNTABILITY REPORT

Fiscal Year 1997-98

Public Service Activities
Clemson University

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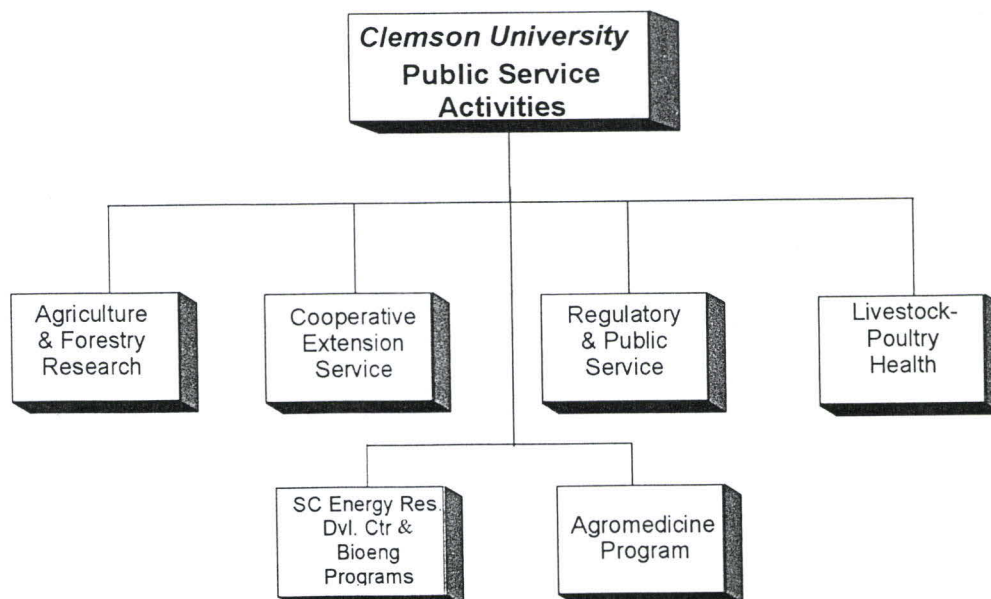
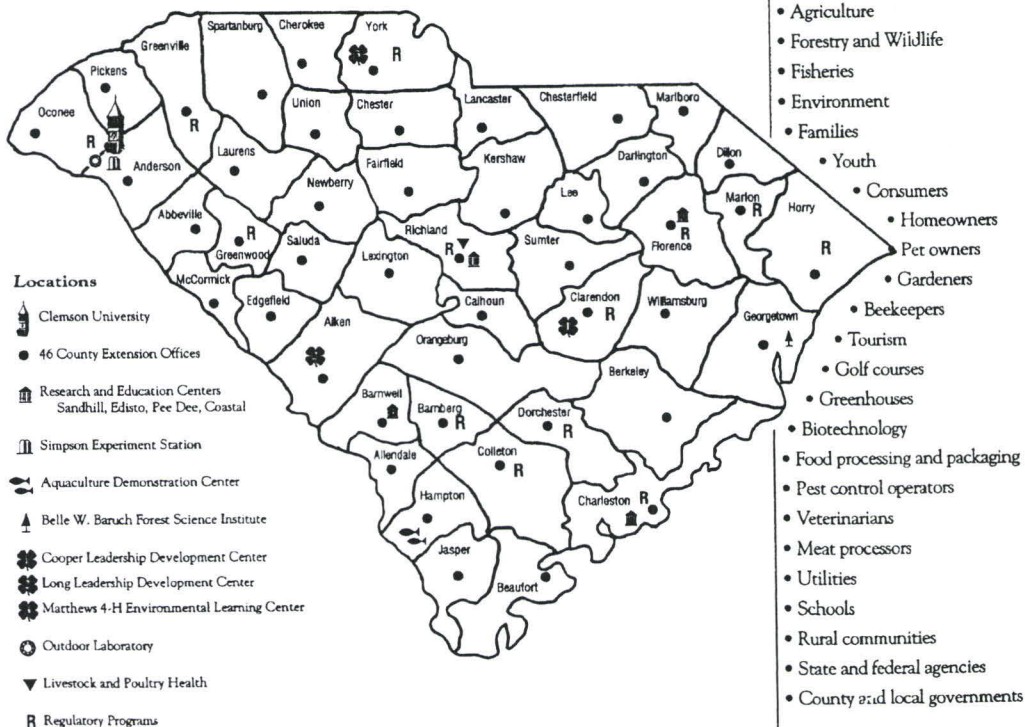
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The Mission of Public Service Activities

To improve the quality of life for South Carolinians through research, education and quality assurance programs for food, fiber and natural resources.

CLEMSON
UNIVERSITY

Public Service Activities in South Carolina



Transmittal Message

We are very pleased to submit the 1997 - 1998 Annual Accountability Report for public service activities at Clemson University.

Clemson was founded in 1889 as a land grant institution with the three-pronged mission of teaching, research and Extension. Research and Extension are included under public service activities, as well as Livestock-Poultry Health Programs, Regulatory and Public Service Programs, the Agromedicine Program, the Bioengineering Alliance and the South Carolina Energy Research and Development Center.

The mission of public service activities at Clemson was developed through extensive discussions with senior staff members and administrators of the university's public service programs, in conjunction with the Vice President for Public Service and Agriculture.

The performance measures for public service activities were developed by our own systems and only reflects a portion of the data we are now collecting to measure our PSA activities. We have also used other forms of measurements as outlined by the Plan for Action on Agriculture and Natural Resources adopted in 1996 by the National Association of State Universities and Land Grant Colleges which should reflect the state's needs and the strengths of Clemson's faculty.

We look forward to continuing to provide South Carolinians with the scientific information they need to improve their quality of life today and in the future. For more information, please contact Linda Martin at the address listed below.

Sincerely,

John W. Kelly
Vice President for Public Service and Agriculture

For questions concerning this report, please contact:

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Executive Summary

Clemson University Public Service Activities is a statewide organization that was developed to serve the citizens of South Carolina. This network of county extension offices, research centers and laboratories is uniquely equipped to serve the state through research, education and quality assurance programs. No other agency can reach the people of this state with information that will better their lives than Clemson University Public Service Activities.

It is, therefore, natural that Clemson University Public Service Activities has refocused its efforts around very specific goals and objectives that meet the needs of the people of this state and the nation. Last year Clemson University Public Service Activities used the federal USDA goals for the Government Performance and Results Act (GPRA). These goals were established for all nation-wide agriculture related programs. These goals set a definite direction for agriculture-related programs but did not fit as well for the State of South Carolina. Therefore, we have established our own set of goals that better meets the needs of our state. By adopting the philosophy of goal oriented service to the State of South Carolina, Clemson University Public Service Activities is better committing its resources in specific areas that will benefit the state and nation.

A unique by-product of this process to better manage and direct our resources has been the development of a new computerized research management system. This system is being recognized as one of the best accountability systems in the nation. Once it is fully operational, this system will help manage and direct our investments in research and extension activities in ways that best fits the needs of our state. The following is a list of some of the characteristics/abilities of our system:

- **Fully integrated systems that share common databases**
- **A system that informs the public, the administration and the faculty (full quality control)**
- **A system that will assist the administration in making effective decisions about research and extension activities**
- **A system that will assist the faculty to manage and record their research and extension accomplishments**
- **A system that helps measure our total PSA investment**
- **A system that will let the public know of the benefits and accomplishments of PSA activities**

This system is still under development, but many of the measures and data being presented in this report are from this system. In the future, this system will better show the results of our efforts and therefore assist us in doing a better job of managing our investment in PSA programs.

Other systems and processes are being implemented to assist us to better serve our state. The Extension Service is now using a statewide information system that tracks Extension related activities. It also records the types of people our programs benefit and how effective we are in presenting our programs. Other organizations and states are joining us in this process thus we are benefiting from this new way of doing business at land grant universities.

The following pages subtitled **Leadership System**, **Customer Focus and Satisfaction**, and **Business Results** will better explain our methods and systems for serving our state.

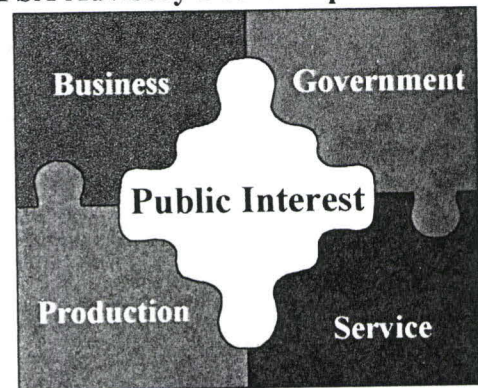
Leadership System

As portrayed in the diagram on page 3, Public Service Activities is made up of several divisions all reporting to the Vice President for Agriculture and Public Service at Clemson University. This organization has become more diversified and proactive than in years past. Although much of its activities still center around agriculture-related problems, public demand and socioeconomic needs have directed its expertise into other areas such as the environment and youth development. These new directions are a direct result of our “*listening*” to the people we serve.

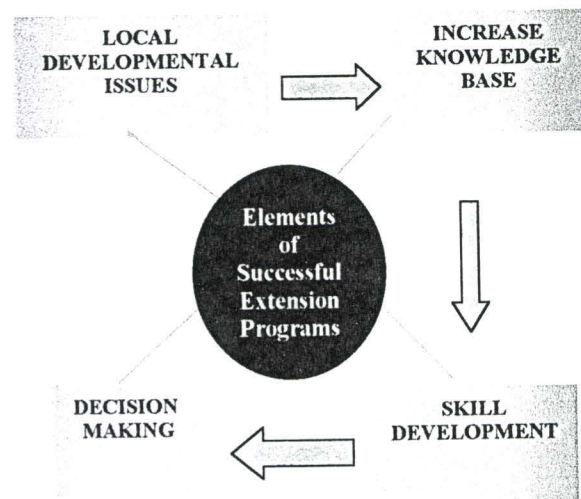
Although each division of Public Service Activities uses very distinct methods of working with their own stakeholders and customers, Public Service Activities has its own Advisory Board with representation from areas that will better help us direct and implement programs to benefit South Carolina. This board is charged with the following:

- Review objectives and planning documents
- Provide advice and counsel on the development and identification of new programmatic areas and centers of excellence
- Be a communication bridge with other cultural, social, and professional leaders of the local community, state, region, and nation
- Assist in development of increased resources and facilities
- Promote within and outside of their own professional area strong image of research accomplishments

PSA Advisory Board Representation



Unlike many agencies, Public Service Activities has a division whose sole purpose is to benefit the citizens of South Carolina -- the Extension Service. Much of what we do in the other divisions comes from our stakeholders working with our Extension agents. But the process is much more formal than that. The chart to the right shows what goes into making a successful Extension program. Starting with learning the local issues and then finding the knowledge and skills necessary to address the issues and to deciding how best to establish a program, Extension programs are fully studied before implementation. It is because of this type of process that Extension has been as successful as it has in meeting the needs of South Carolina and its citizens.

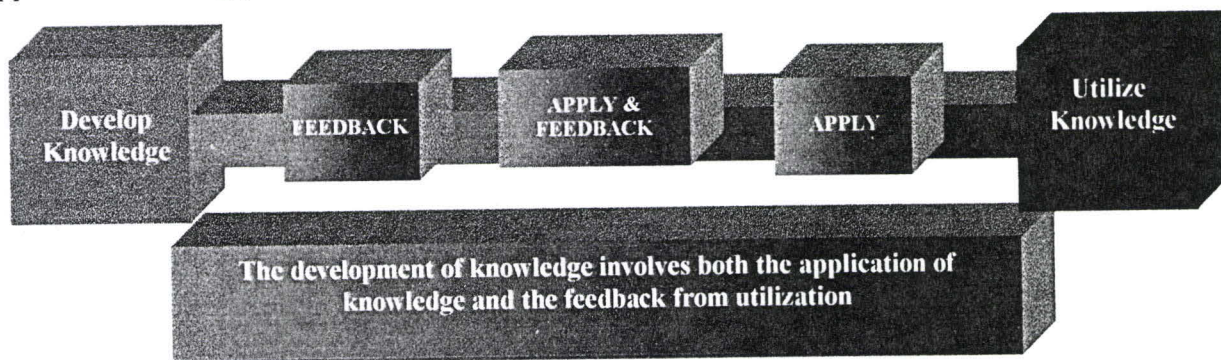


Research uses a somewhat different method to evaluate needs and direct research activities where needed. Unlike The Extension Service whose focus is on the dissemination of knowledge where needed, The South Carolina Agriculture and Forestry Research System is in the business of developing knowledge through creative research. But in order for this process to work

properly, both divisions must work closely together to understand the needs of stakeholders. To assure that research is working on issues it should be, a thorough review is required to approve all research projects. This starts out by setting up programs for research that fit the goals of PSA. Each program is developed by seeking input from faculty and stakeholders then assuring that the program meets three basic criteria: Relevance, Capacity, and Impact. If the program does not meet these criteria, it does not get funded.

Customer Focus and Satisfaction

Customer focus and satisfaction is an essential component of Public Service Activities. If not, we would not exist. Our organization may be one of the best examples of how to work with customers/stakeholders. PSA was organized to serve people by first obtaining the knowledge required to solve problems and then getting this information (knowledge) to the people that need it. The South Carolina Agriculture and Forestry Research System in cooperation with other state agencies and divisions, develops the knowledge and passes this information on to the Extension Service. The Extension Service uses this knowledge to solve the state's problems and also feeds the state's needs back to the research divisions (see below). The system has worked well for years and should continue to work even better with a more focused goal-oriented approach to solving problems.



Business Results

Understandably, our system of measuring performance and accomplishments is still developing. New processes and systems are being developed to better demonstrate how we are investing our funds to accomplish what needs to be done for South Carolina. A prime example of this is the development of Research Information System (South Carolina Agriculture and Forestry Research System) and the Clemson University Management Information System (Clemson Extension). Both these systems are in the early stages of implementation and should generate the data needed to better assess our investment of funds. The Research Information System, for example, tracks where all our funds are invested and how it is spent. It shows comparative data between departments and faculty. It shows the results of research and what outside funds have been generated as a result of those funds. The CUMIS system collects data on what problems our Extension agents encounter and the types and number of the people our programs assist. As these systems mature and develop, our management of our investments should improve, we should be able to better focus our efforts, and thus better serve our stakeholders.

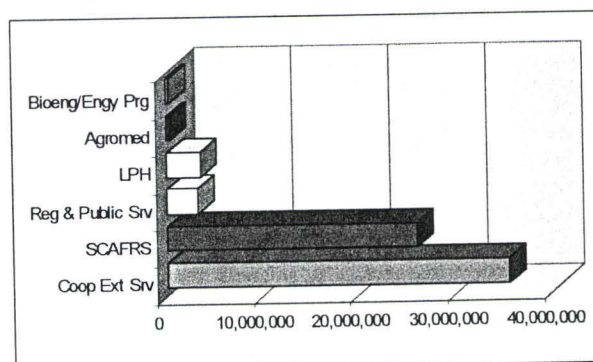
Public Service Activities

Mission: *To improve the quality of life for South Carolinians through research, education and quality assurance programs for food, fiber and natural resources.*

Goals: *Agrisystems Productivity and Profitability
Economic and Community Development
Environmental Conservation
Food Safety and Nutrition
Youth Development*

Public Service Activities at Clemson University is divided among several organizations that deal with very specific areas of expertise or problems. These areas, with their budgets (state, federal, & grants), are listed below:

Program Name	Budget FY 99
Cooperative Extension Service	35,096,828
SC Agr & Forestry Research Sys	25,766,547
Regulatory & Public Service	3,131,362
Livestock-Poultry Health	3,477,663
Agromedicine Program	284,648
Bioengineering/State Energy Prg	257,379



These areas are fully described and their purposes stated in the following pages. Public Service Activities also use expertise in other areas at Clemson University across the state, the region, and the nation. Some of these are the Strom Thurmond Institute, The Clemson Institute for Environmental Toxicology, The Medical University of South Carolina, the Forest Service, USDA, regional land grant universities, and others. It has been and will continue to be Clemson's intent to bring together all the expertise needed to solve the state's problems.

Through the combined efforts of research, extension, and regulatory support, South Carolina's agricultural producers have learned the value of crop rotation, soil conservation, fertilization, and variety selection. Now, our focus is moving into areas such as biotechnology, integrated pest management and alternative enterprises to help our state's rural economy remain viable in an increasingly competitive world. In addition, increased emphasis is being placed on environmental issues such as water quality and livestock, waste management, a renewed focus on developing rural leadership for both youth and adults, providing economic development opportunities for residents of rural areas, ensuring a safe food supply, promoting nutrition, protecting the health of humans and animals, and setting safe standards for effective use of pesticides.

South Carolina Agriculture and Forestry Research System

Mission: *Develop knowledge through research*

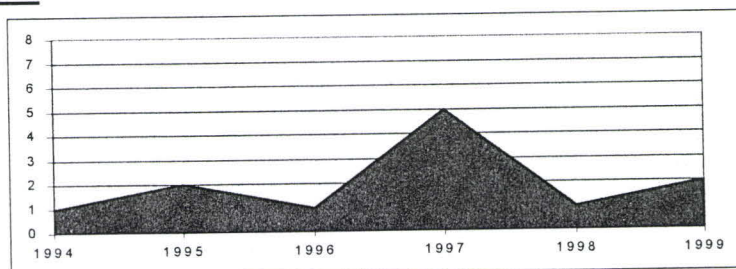
The South Carolina Agriculture and Forestry Research System, based at Clemson, is part of an international network of scientists working to develop unbiased, research-based knowledge for agriculture, natural resources, and the rural environment to enhance economic development and the quality of life for all people. Clemson researchers are making break-through discoveries in plant biotechnology, food safety, ornamental horticulture, packaging science, aquaculture, and the environment, while continuing to improve production agriculture and forestry.

Clemson researchers are also developing innovative guidelines to establish research priorities and define scholarship beyond tenure requirements. And they are "thinking outside the box" to address all aspects of research issues by including many diverse areas, such as engineering, applied economics, sociology, forestry, agronomy, and others as needed. As a result of this emphasis on relevance, accountability, creativity, and multidisciplinary cooperation, Clemson is being recognized as a national model for the land-grant university of the future.

What We Measure:

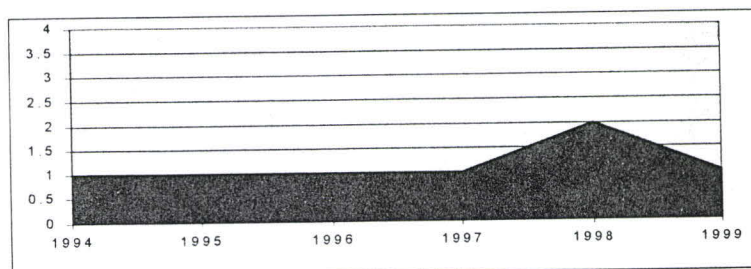
Patents

1994	1
1995	2
1996	1
1997	5
1998	1
1999 (goal)	2



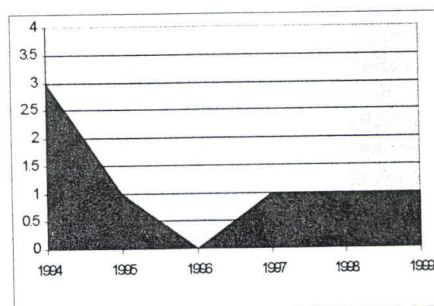
Licenses

1994	1
1995	1
1996	1
1997	1
1998	2
1999 (goal)	1



New Varieties

1994	3	Clemson 201 Wheat
"		White Regal Sweet Potato
"		Dillon Soybeans
1995	1	CU 263 Tobacco
1996	0	----
1997	1	Musen Soybeans
1998	1	Motte Soybeans
1999 (goal)	1	?



Note: Benchmarks not available but are being pursued

South Carolina Cooperative Extension Service

Mission: *We will provide sound, scientifically based information to South Carolinians and help them use that information to improve the quality of their lives.*

Clemson Cooperative Extension implements educational programs which address critical issues and needs through: (1) state of the art technologies for program delivery; (2) a diverse, proficient and visionary staff; (3) an accessible information system; (4) effective linkages with researchers; (5) strong linkages and collaboration with other agencies and organizations both within and outside the land-grant system; and (6) an effective award and reward system that recognizes employee achievement at all levels.

Base programs of the state and of the nationwide Cooperative Extension System drive our four-year (1997-2001) statewide Extension plan of work. The statewide plan includes broad parameters for program development by both university and county faculty. In addition, Extension advisory boards and program identification committees also had input to the statewide plan of work. The statewide plan of work contains five PSA goals, 16 initiatives, and 70 projects, covering a variety of topics and programs that address the needs South Carolina citizens.

A Clemson University Management Information System (CUMIS) is in place to document Extension program activities. CUMIS is being used to generate a variety of reports to meet federal, state, university and civil rights requirements. Reports generated from CUMIS are being used in identification, development, and evaluation of Extension programs. In addition, various reports generated from CUMIS will help chart future courses of action to improve Extension programs, reallocate resources and make other managerial decisions. Such actions will help us make informed decisions on Extension program efforts as we prepare to meet the challenges of the 21st century.

What We Measure:

(Note: This is the first year of collecting data in this manner and thus no historical or projected data are available)

Programming FTE's

PSA Goal 1	19.1
PSA Goal 2	32.1
PSA Goal 3	49.4
PSA Goal 4	23.0
PSA Goal 5	36.8

Contacts

PSA Goal 1	37,219
PSA Goal 2	114,162
PSA Goal 3	148,083
PSA Goal 4	57,167
PSA Goal 5	202,182

Contacts per Program FTE

PSA Goal 1	1,949
PSA Goal 2	3,556
PSA Goal 3	2,998
PSA Goal 4	2,485
PSA Goal 5	5,494

Programs/Activities Conducted

PSA Goal 1	1,034
PSA Goal 2	5,015
PSA Goal 3	3,470
PSA Goal 4	3,603
PSA Goal 5	5,865

Number Reporting Inc Know.

PSA Goal 1	7,338
PSA Goal 2	25,086
PSA Goal 3	29,787
PSA Goal 4	23,245
PSA Goal 5	130,000

Number Reporting Adoption

PSA Goal 1	2,344
PSA Goal 2	10,172
PSA Goal 3	9,479
PSA Goal 4	3,395
PSA Goal 5	9,617

Note: Goal #1 - Agrisystems Productivity and Profitability
 Goal #2 - Economic and Community Development
 Goal #3 - Environmental Conservation
 Goal #4 - Food Safety and Nutrition
 Goal #5 - Youth Development

Regulatory and Public Service Programs

Mission: *To ensure the safe and legal use of pesticides and fertilizers; protect plants from introduced pests; enhance South Carolina agricultural productivity and protect the environment by enforcing mandated regulations and providing seed certification and quality assurance services for transgenic crops.*

Consumer and environmental protection services closely related to the agricultural sector are provided through the Division of Regulatory and Public Service Programs. The Division helps protect the quality of life in South Carolina by promoting a safe environment; by assuring that fertilizers, pesticides and seed meet standards that enhance efficient and profitable crop production; by enforcing quarantines and other regulations that protect South Carolina agriculture from certain weeds, insects, and diseases; and by ensuring safe use of pesticides. Recognizing that compliance with regulations is enhanced by a strong educational approach, the Division maintains close coordination with Clemson University Cooperative Extension Service and the South Carolina Agriculture and Forestry Research System.

Livestock-Poultry Health

Mission: *To ensure the safety and health of livestock and poultry produced in South Carolina, as well as the health of companion animals and wildlife.*

This division has a major role in protecting the quality of life for humans, as well as companion and food animals. Constant surveillance for diseases that affect both human and other animals, providing the diagnostic expertise that allows for treatment and eradication of diseases of domestic animals, and inspections and testing of processing of foods of animal origin are daily functions of Livestock-Poultry Health. Our diagnostic laboratory also provides veterinary diagnostic support for wildlife.

Agromedicine Program

Mission: *To provide a medical resource to Clemson University's Public Service Programs and improve the quality of life of South Carolina's farm families, associated industry workers, and consumers of agricultural products through consultative services, education, and research in agricultural medicine.*

The Agromedicine Program is a cooperative effort between the Medical University of South Carolina and Clemson University's Extension Service. As a statewide specialized outreach program, personnel are consulting rural and hard-to-reach farm families in agricultural medicine. An example is work underway with rural physicians and pharmacies to develop effective approach to maintain farmers' compliance with blood pressure medications in an effort to prevent disability and death from strokes. Consultation and education concerning farmer health

maintenance programs such as concern about acute pesticide poisoning are other facets of the program's objectives.

South Carolina Energy Research and Development Center

Mission: *To promote energy research and development in and for the state, to transfer energy technology developed by others to South Carolina applications, to contribute to national energy issues in areas of excellence, and to promote statewide energy education activities.*

The South Carolina Energy Research and Development Center (SCERDC) is a state chartered research and development organization established in 1981 via the S.C.-82 General Appropriations Act.

To accomplish the objectives, SCERDC may interact with all departments at Clemson University, all colleges within South Carolina, state agencies, federal agencies, and private industry throughout the nation.

Bioengineering Alliance

Mission: *To promote unified bioengineering education and research in South Carolina*

The Bioengineering Alliance of South Carolina is a unique State program that promotes biomedical engineering education and research between Clemson University, the University of South Carolina, and the Medical University of South Carolina. The Alliance shares faculty, research facilities, and other resources to foster interdisciplinary research between the participating campuses.

The Alliance has a long-term development strategy for transferring medical technology from our state research institutions to high technology companies and the marketplace and thereby enhancing state economic development. The Alliance has an ongoing demonstration project to apply the emerging technologies of artificial intelligence, computer-aided design, and computer-aided manufacturing to problems in orthopedic prostheses development and manufacture. We are developing a system for the real-time design and manufacture of custom implantable devices. The development and commercialization of such a system could have a significant economic impact on industry within South Carolina and could potentially revolutionize the orthopedic product industry by making pre-fabricated devices obsolete.

Legislative Authority

- The Smith-Lever Cooperative Extension Act of 1914 mandated a cooperative effort among the federal, state, and local governments with a close relation with the private sector. It developed a funding formula, tied Extension to the land grant institute, and required local matching of funds.
- The South Carolina County Agent Act of 1930 stipulates that Clemson University will maintain an office in each county in South Carolina. It further requires that at least one home economist and one agricultural agent staff each office.
- The National Agricultural Research, Extension, and Teaching Policy Act of 1977 (as amended in 1981) functions to improve the planning and coordination of research, Extension, and higher education within the public and private sectors, as well as to relate the federal budget process to the overall functioning of the system.
- The Hatch Act of 1887 mandated the creation of agricultural experiment stations for scientific research. The Hatch Act authorized direct payment of federal grant funds to each state to establish an agricultural experiment station. The amount of this appropriation varies from year to year and is determined for each state through a formula based on the number of small farmers. A major portion of the federal funds must be matched by the state.
- The first Morrill Act of 1862 mandated donating public lands to several states. The 1862 Morrill Act was intended to provide a broad segment of the population with a practical education that had direct relevance to their daily lives. In 1890, The Second Morrill Act was passed, providing further endowment for institutions for black students, leading to the creation of 17 historically black land-grant colleges.